

Remarks

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 1-7 are pending in this application. Claims 1 and 6 are amended. Claim 1 is independent.

I. Drawings

Applicants have not received a Notice of Draftsperson's Patent Drawing Review PTO-948 indicating whether or not the formal drawings have been approved by the Draftsperson. Since no objection has been received, Applicants assume that the drawings are acceptable and that no further action is necessary. Accordingly, confirmation thereof in the next Office Action is respectfully requested.

II. Specification Objection

The Examiner has objected to the specification as failing to provide proper antecedent basis for the claimed subject matter. In order to overcome this objection, the specification has been amended. It is respectfully submitted that no new matter is introduced by this Amendment since it is fully supported by FIG. 4 of the drawings. Accordingly, reconsideration and withdrawal of this objection are respectfully requested.

III. Rejection under 35 U.S.C. § 103(a)

Claims 1 and 3-7 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,709,598 to Nishio et al. in view of U.S. Patent No. 5,021,120 to Buck et al, and further in view of U.S. Patent No. 5,858,106 to Ohmi et al. Claim 2 is rejected under 35 U.S.C. §103(a) as being unpatentable over Nishio et al., Buck et al. and Ohmi et al., and further in view of U.S. Patent No. 5,182,188 to Cole, Jr. et al. These rejections are respectfully traversed.

While not conceding the appropriateness of any of the rejections but merely to advance prosecution of the instant application, independent claim 1 is amended to recite a process of manufacturing a roll punch used for forming partition walls of a plasma display panel having a combination of steps, including "partially removing the mask from said forming roll at regularly spaced positions while rotating said forming roll, thus forming an intermediate product having a plurality of regularly spaced masked-free parts, each encircling the forming roll," and "etching said intermediate product at the masked-free parts within an etching tank provided with at least one ultrasonic vibrator by radiating ultrasonic waves from said at least one ultrasonic vibrator towards the mask-free parts while rotating said intermediate product, thus forming a plurality of partition wall forming grooves encircling said forming roll of the intermediate product."

It is respectfully submitted that the combination of steps set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Nishio et al, Buck et al., Ohmi et al. and Cole, Jr. et al.

In contrast to Applicants' claimed invention, Nishio et al. merely discloses a method of producing an abrasive in which a film substrate 2 is partially wrapped around a roll formplate 1 with a pan 4 containing a curable resin below the roll formplate 1, as shown in Figure 1. A curable resin 3 is supplied from within the pan 4 by coating roll 7 to fill plate concavities 5. Ionizing radiation rays R are irradiated toward the substrate 5 by irradiating device 8. Then substrate 2 is peeled off from the formplate 1 to produce a polishing abrasive layer 10 provided with recesses 9 formed by the form roll formplate 1, as shown in Figure 2. The plate concavities 5 in Nishio et al. are formed in a convex shape on the roll formplate 1 and are therefore very different in structure from the claimed "mask-free parts" in the present invention, which are formed to **encircle** the forming roll. Nishio et al. does not teach or suggest "partially removing the mask from said forming roll at regularly spaced positions while rotating said forming roll, thus forming an intermediate product having a plurality of regularly spaced mask-free parts, each encircling the forming roll," as recited in claim 1.

The Office Action relies on Buck et al. for a teaching of the use of ultrasound while etching the exposed portions of the substrate. However, Buck et al. does not teach or suggest the above cited limitations of claim 1, and therefore fails to show the deficiencies of Nishio et al.

The Office Action relies on Ohmi et al. for a teaching of applying ultrasonic energy to a rotating work piece while contacting the work piece with an etchant. However, Ohmi et al. does not teach or suggest the above cited limitations of claim 1, and therefore fails to cure the deficiencies of Nishio et al. and Buck et al. Furthermore, although Ohmi et al. does teach spraying cleaning liquid to which ultrasound is applied onto the surface of a rotating substrate and thereby removing resist, Ohmi et al. does not teach "forming a plurality of partition wall forming grooves encircling said forming roll of the intermediate product," as recited in claim 1.

In rejecting claim 2, the Office Action relies on Cole, Jr. et al. for a teaching of the use of the laser beam to partially remove an etching mask. However, Cole, Jr. et al. do not teach or suggest the above cited limitations of claim 1, which are incorporated in claim 2 and therefore fails to cure the deficiencies of Nishio et al., Buck et al. and Ohmi et al.

In view of the foregoing, it is respectfully submitted that Nishio et al., Buck et al., Ohmi et al. and Cole, Jr. et al. fails to disclose or render obvious the presently claimed invention and withdrawal of the rejections based thereon is respectfully requested.

Independent claim 1 is in condition for allowance. Since the remaining claims depend directly or indirectly from allowable independent claim 1, they are also allowable for at least the same reasons as set forth above, as well as for the additional limitations provided by these claims. Accordingly, all claims should be allowable.

IV. Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

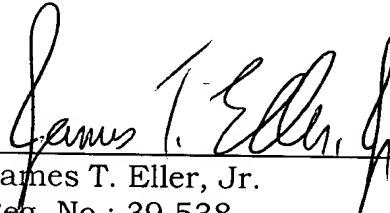
However, if there are any outstanding issues, the Examiner is invited to telephone Sam Bhattacharya, Reg. No. 48,107, at 703-205-8000, in an effort to expedite prosecution.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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